5. REMEDIAL ACTION WORK PLAN

The Work Plan details the management approach to the remedial action, including the schedule and necessary steps and documentation to perform the remedial action and document its completion. This section describes the elements necessary to implement the remedial design outlined in Sections 1 through 4. Because the remedial design and the remedial action work plan are combined into one document, some details of implementation have been described in the design portion of the document for clarity.

5.1 Relevant Changes to the Scope of Work

As discussed in Section 1, there is a distinct possibility that at least a portion, if not all, of the ARA-25 remedial action may occur as part of the Phase I activities. The ARA-16 stainless steel piping intersects the concrete foundation walls and soils associated with the ARA-25 site. As part of the ARA-16 remedial action, the walls and soils associated with ARA-25 will be disturbed. The extent of that disturbance will not be known until actual field activities commence. At least a portion of the concrete foundation and the soils will need to be removed in order to access the ARA-16 piping. If this removal is quite extensive, it will be in the best interest of the project to continue with the remediation of ARA-25, possibly to the point of completion. For this reason, sections that are applicable to the ARA-25 remedial action have been added to the Phase I Work Plan.

The ROD (DOE-ID 2000a) defines the RAO for Ra-226 as 1.2 pCi/g for the ARA-02 and ARA-25 sites based upon the average corrected background concentration. This raises a concern given that the average background concentration for Ra-226 at the INEEL is 1.1 pCi/g; hence, the possibility exists that many soils may exceed the RAO simply due to naturally occurring background. Therefore, it is proposed that a RAO of 1.5 pCi/g be used for Ra-226 at the WAG 5 sites. This value is based upon the average upper tolerance limit at the 95% confidence level estimating the upper 95th percentile at the 95% confidence level and will provide the following benefits:

- Allows consistency with the approach taken for other naturally-occurring contaminants found in INEEL soils
- Supports the volume minimization strategy ensuring only contaminated soils are excavated and disposed of at the ICDF
- Lowers the probability of declaring a clean site as being contaminated.

5.2 Assumptions and Unresolved Issues

Sections 2 and 3 of the scope of work (DOE-ID 2000b) describe the assumptions and unresolved issues, respectively, associated with this project. For Phase I of the remedial action, it is important to reiterate the issue of disposal of the ARA-16 Radionuclide Tank waste. At this time, there is not a TSCA-approved disposal facility available to accept and treat the waste from this tank. The TSCA incinerator operated at Oak Ridge, Tennessee, for DOE will not accept waste containing the levels of alpha contamination present in the tank waste. Two possible commercial incinerators are in the process of being constructed; however, neither facility is yet complete. Before the INEEL can ship waste to either facility, the facility must have first received its offsite approval from the EPA, and a due diligence audit will need to be completed and closed out. As such, until a disposal facility is approved for treatment of the ARA-16 Radionuclide Tank Sludge waste, the disposal of the waste will be delayed until such time as an approved facility becomes available.

5.3 Work Tasks

The following sections summarize the primary work tasks critical to completion of the activities specified in this Work Plan. Figure 5-1 provides a process flow of the major field activities scheduled to occur.

5.3.1 Premobilization

BBWI project personnel will provide all required work plans and shall ensure that all necessary training and medical examinations are complete per the project HASP (INEEL 2000). Required training and current medical information required by the project HASP (INEEL 2000) will be provided prior to mobilizing to the task site.

5.3.2 Mobilization

Mobilization describes work that must be done in preparation for field operations. This work is generally the implementation of the required administrative, engineering, and health and safety controls including, but not limited to, the following:

- Fences, signs, and postings
- Identification and demarcation of task sites
- Delivery and storage of material and equipment
- Set-up of the field operations site offices.

5.3.3 Storm Water Management and Sediment Control

Storm Water Pollution Prevention requirements are not applicable in this area per the *INEEL Storm Water Pollution Prevention Plan for Construction Activities* (DOE-ID 1998).

5.3.4 Clearing and Grubbing the Site

The task sites shall be cleared of shrubs, vegetation, fences, and other debris as identified in the project drawings in Appendix A. Disturbance of underlying soils shall be minimized during all clearing and grubbing activities, which will be performed in accordance with Specification 02200, Earthwork, provided in Appendix B of this document.

Clearing and grubbing operations shall be confined to those areas required for barrier construction or as directed by INEEL project personnel. Any areas outside the designated areas that are damaged or disturbed by field operations shall be repaired and reseeded by task site personnel in accordance with Specification 02486, Revegetation, provided in Appendix B of this document.

5.3.4.1 ARA-07 Activities. Task site personnel will remove the existing fence, signs, and controlled area barriers from around ARA-07. The fence consists of 1.2 m (4 ft) high chain-link with metal posts presumably set in concrete. The fence and other materials will be surveyed by radiological control technicians (RCTs), decontaminated as necessary, and released for disposal in the Central Facilities Area (CFA) landfill. Vegetation removal will not be required for area activities.

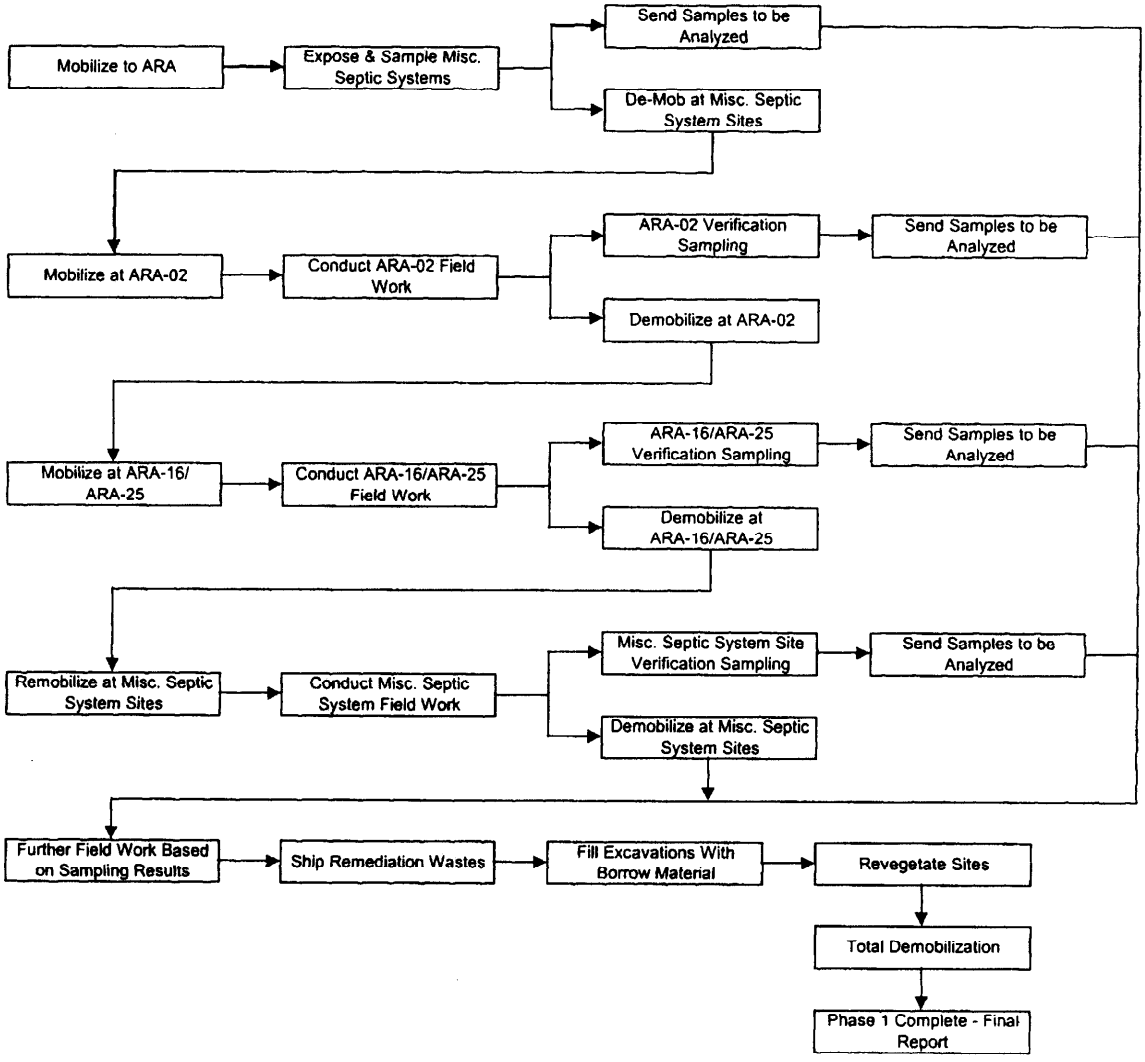


Figure 5-1. Field process flows.

5.3.4.2 ARA-08 Activities. The removal of shrubs, vegetation, fences, or other debris will not be required for the ARA-08 site.

5.3.4.3 ARA-13 Activities. Task site personnel will remove the existing guard posts that surround the septic tank area. The guard posts consist of 10.2-cm (4-in.) diameter, concrete-filled iron pipe set in concrete-filled excavations. The guard posts will be surveyed by RCTs, decontaminated as necessary, and released for disposal in the CFA landfill. Vegetation removal will not be required for ARA-13 site activities.

5.3.4.4 ARA-16 Activities. Task site personnel will remove the existing fences, gates, and signs from around ARA-16. The fences consist of chain link with some metal posts set in concrete with others set in above-ground anchor blocks. The fences, debris, and signs will be surveyed by RCTs, decontaminated as necessary, and released for disposal at an approved facility. Vegetation removal will not be required.

5.3.4.5 ARA-21 Activities. Task site personnel will remove the existing fencing that surrounds the seepage (leach) pit located approximately 23 m (75 ft) south of the septic and chlorine-contact tanks. Removal of vegetation over the tanks will be performed (as necessary).

5.3.4.6 ARA-25 Activities. The removal of shrubs, vegetation, fences, or other debris will not be required for the ARA-25 site. The roof that is currently covering the site will be removed and disposed of at an approved facility.

5.3.5 Soil Consolidation

Soils shall be excavated and consolidated to the extent shown on the design drawings provided in Appendix A. Soil excavation shall be limited to only those soils necessary to expose the components destined for removal. Excavated soils will be consolidated in a designated area immediately adjacent to the task site. All excavation and consolidation activities will be performed in accordance with Specification 02200, Earthwork, provided in Appendix B of this document.

Precautions (such as water spray, wind monitoring, and visual observation) will be used to prevent the generation of fugitive dust. Air monitoring may be performed at the discretion of the RCTs based on their evaluation of the effectiveness of dust suppression measures to control the spread of contamination through fugitive dust. Likewise, the industrial hygienist may perform monitoring at those sites where the potential exists for exposure to chemical hazards. Personal protective equipment, when required, shall be used as specified in the HASP (INEEL 2000) and as determined by the RCT and/or the industrial hygienist (IH) present at the task site. Equipment necessary for the consolidation of soils will remain within the contamination control zones until completion of consolidation activities in order to minimize the spread of contamination.

5.3.6 Earthwork

The earthwork on this project shall be defined as the following:

- Excavation and consolidation of soils from the task sites as directed by radiological control (RadCon) and the IH
- Excavation and reuse of clean soils as necessary backfill materials from within the task sites
- Excavation, hauling, and placement of backfill materials

- Construction of task site barriers
- Grading and reclamation seeding of the task sites and areas adjacent to the barriers.

The earthwork at each of the task sites will include backfill with Type B native soils and the placement of a Type A native soil cover for vegetation. All earthwork will be performed in accordance with Specification 02200, Earthwork, provided in Appendix B and the project design drawings provided in Appendix A of this document.

5.3.7 Borrow, Haul, and Stockpile

Three types of borrow material are required for this project: (1) Type A native soil, (2) Type B native soil, and (3) gravel. The materials are available from borrow sources located at the INEEL. All on-Site borrow sources have been previously determined to be free of contamination. Earthen materials used to abandon tanks and pits in place shall be dry, granular Type C soils as per 29 CFR 1926, Subpart P, Appendix A–Soil Classification. Approved INEEL locations for obtaining gravel include the following:

- RWMC and Boiling Water Reactor Experiment (BORAX) Pit
- CFA Gravel Pit
- Test Reactor Area (TRA) Gravel Pit.

Borrow operations shall be performed in accordance with project Specification 02200, Earthwork, provided in Appendix B of this document and an approved INEEL Form 450.19. Task site personnel shall set up an operation at the borrow area to gather and stockpile the material in preparation for hauling it to the project site, and a hauling operation shall be set up to move the material from the borrow source to the project site where it will be placed.

Equipment used for haul and stockpile operations will remain outside of radiation work areas. The work will require the services of heavy earthwork equipment such as scrapers, dozers, loaders, and large dump trucks and will require up-front planning and coordination with other site operations and personnel to ensure safe and productive hauling across Site roads. The project shall be responsible for maintaining the Site haul roads during operations and for returning haul roads to their original condition. If necessary, a traffic management plan will be prepared, including documentation of the condition of the haul roads prior to operations.

5.3.8 Reclamation Seeding

The reclamation seeding requirements vary due to overlapping areas in the Phase I and 2 actions. Several Phase I areas lie inside the ARA-23 site that will be remediated during Phase II. The Phase II soil site remediation includes excavation, disposal, and reseeding of ARA-23, thus removing any reseeding work done during Phase I in those areas affected by the ARA-23, Phase II work. The Phase I sites that lie within ARA-23 include ARA-02, ARA-07, ARA-08, ARA-16, and ARA-25.

The ARA-13 and ARA-21 sites are completely outside the Phase II soil contamination sites. Upon completion of all earthwork activities, reclamation seeding shall take place on the Type A native soil covers, areas adjacent to the barriers that have been disturbed during construction, lay down areas, and all areas affected by remediation activities (such as material borrowing and stockpiling). The seeding and mulching of these sites will be performed in accordance with the requirements set forth in

Specification 02486, Revegetation, provided in Appendix B of this document. The following subsections discuss those Phase I sites affected by Phase II activities.

5.3.8.1 ARA-02 Sanitary Septic System. The ARA-02 site has components lying both inside and out of the ARA-I facility. During all ARA-02 earthwork within the ARA-I facility, the top 15 cm (6 in.) of material will be stockpiled. Upon completion of the earthwork, it will be returned to the top of the excavated areas after backfill has been added. No reseeding is required inside the ARA-I facility fence. During all ARA-02 earthwork outside the ARA-I facility, the topsoil will be stockpiled and used as topsoil for reclamation seeding as directed by project personnel. Upon completion of all earthwork activities outside the ARA-I facility, reclamation seeding shall take place similarly to that for ARA-13 and ARA-21.

5.3.8.2 ARA-07 Seepage Pit to East. The ARA-07 seepage pit lies just outside of the ARA-II facility and within the ARA-23 site. Because of the small size of this area, 15 cm (6 in.) of gravel will be used to eliminate the growth of unwanted plant life and to provide adequate soil stabilization until Phase II remediation activities are complete. No reseeding will be performed.

5.3.8.3 ARA-08 Seepage Pit to West. The ARA-08 seepage pit lies just outside of the ARA-II facility and within the ARA-23 site. Because of the small size of this area, 15 cm (6 in.) of gravel will be used to eliminate the growth of unwanted plant life and to provide adequate soil stabilization until Phase II remediation activities are complete. No reseeding will be performed.

5.3.8.4 ARA-16 Radionuclide Tank. The ARA-16 tank and associated piping lie completely within the ARA-I facility and the ARA-23 site. During all ARA-16 earthwork, the top 15 cm (6 in.) of material will be stockpiled and returned to the top of the excavated areas after backfill has been added. No reseeding will be performed.

5.3.8.5 ARA-25 Soils Beneath the ARA-626 Hot Cells. The ARA-25 hot cell foundation and contaminated soils are completely within the ARA-I facility and the ARA-23 site. During all ARA-25 earthwork, the top 15 cm (6 in.) of material will be stockpiled and returned to the top of the excavated areas after backfill has been added. No reseeding will be performed.

5.3.9 Demobilization

After the tank remedial action and inactive septic system activities have been satisfactorily completed and all the equipment has been properly decontaminated, task personnel will demobilize from the site, and the equipment will be removed from the site. Decontamination pads and temporary fencing, erected in support of the activities described in this Work Plan, will be removed and packaged or disposed appropriately.

5.4 Field Oversight

The DOE-ID remediation project manager will be responsible for notifying the EPA and IDEQ of project activities. The project manager will also serve as the single interface point for all routine contact between the Agencies and BBWI.

In addition, BBWI will provide field support services for field oversight, health and safety, environmental, quality assurance, and landlord services for this project. An organization chart and position description are provided in the project HASP (INEEL 2000).

5.4.1 Protocol and Coordination of Field Oversight

The DOE will notify the EPA and IDEQ WAG managers of pending remedial action activities, such as project start-up, close-out, and inspections. Activities related to preliminary inspections, the prefinal inspection, and the final inspection are covered in Section 5.7. In accordance with the FFA/CO (DOE-ID 1991), notification will be provided a minimum of 14 calendar days prior to prefinal inspection activities.

Visitors to any of the project sites who wish to observe activities must meet badging and training requirements necessary to enter INEEL facilities. Training requirements for visitors are described in the project HASP (INEEL 2000).

5.5 Project Cost Estimate

The project cost estimates for the tasks addressed by the Phase I Work Plan are presented in Appendix K. The costs may be revised during subsequent submittals of this document to reflect the most current estimate, based on comments to the design and other data.

5.6 Project Schedule

The schedule for Phase I of the WAG 5 RD/RA is presented in Figure 5-2 with the associated data identified in Table 5-1. The schedule covers all Phase I project tasks identified in the WAG 5 RD/RA Scope of Work (SOW) (DOE-ID 2000b) through completion of the remedial action report. Administrative and document preparation activities are based upon an 8-hour day, 5-day work week, while field activities are based upon a 10-hour day, 4-day work week. The schedule does not include any contingency for delay to the schedule due to late or slow document reviews or for field activities experiencing loss of productivity due to adverse weather conditions or other causes outside of the control of the project team.

5.7 Inspections

Upon completion of remedial action construction activities, standard prefinal and final inspections will be performed at each site at the discretion of the project managers or designees. Periodic inspections can occur at any time during remedial activities. The inspections will be conducted to finalize all project work elements. The inspections will establish compliance with the remedial design, the activities outlined in the remedial action work plan, and with all requirements indicated.

5.7.1 Prefinal Inspection

The Agency project managers or their designees will conduct the prefinal inspection prior to completion of the remediation. The DOE-ID will notify the Agencies approximately two weeks prior to the prefinal inspection date. The prefinal inspection will determine the status of remediation activities, including outstanding requirements and actions necessary to resolve any identified issues. All of the outstanding requirements, along with the actions required to resolve them, will be identified and approved by the Agencies during the prefinal inspection. The prefinal inspection report will document any unresolved items and the actions required for resolution. In some instances, the prefinal inspections can

Table 5-1. Start, completion, and enforceable dates for Phase I of the WAG 5 RD/RA.

Activity	Document Type	Start Date	Completion Date	Enforceable Date
Draft RD/RA SOW sent to Agencies for review.	NA	2/28/00	3/29/00	
RD/RA SOW finalized.	NA	3/29/00	4/13/00	
Draft Phase I RD/RA Work Plan sent to Agencies.	Primary	5/8/00	5/22/00	8/11/00
RD/RA Phase I preliminary design (i.e., table top) reviewed by Agencies.[a]	NA	5/23/00	5/24/00	
Final resolution of Phase I RD/RA Work Plan comments.	NA	5/25/00	6/6/00	
Phase I RD/RA Work Plan finalized.	NA	6/6/00	6/6/00	
Phase I mobilization to ARA.	NA	6/8/00	6/14/00	
Phase I field work.	NA	6/15/00	6/15/01	
Phase I prefinal inspection.	NA	6/18/01	6/29/01	
Prefinal inspection report for Phase I internal review.	NA	7/2/01	8/1/01	
Draft Phase I remedial action report submitted to Agencies documenting all Phase I remedial actions taken at WAG 5.	Secondary	8/2/01	9/3/01	

a. The table top review fulfills the requirements of the secondary preliminary design document.

be performed as each major element of the project is completed, rather than at the time of total completion.

A checklist used to document the prefinal inspection will be developed and implemented upon approval by the Agencies. Action for resolution and anticipated schedule of completion will be noted next to the outstanding items and documented on the prefinal inspection checklist.

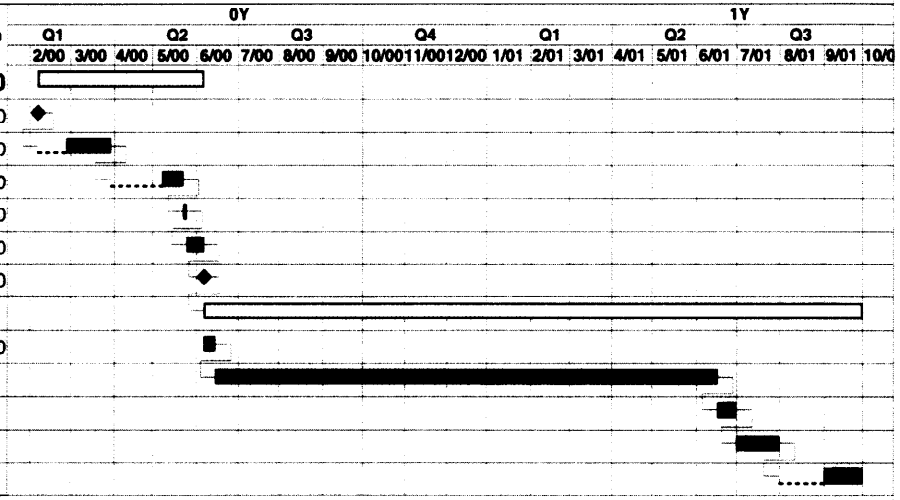
5.7.2 Prefinal Inspection Report

Documentation of the prefinal inspection will be provided in a prefinal inspection report, which will contain the following elements:

- The names of all inspection participants
- Inspection checklist(s) containing specific project systems, components, start-up procedures, or other areas to be inspected to constitute acceptance of remediation activities
- A discussion of all documented inspection findings
- Corrective actions to be taken to correct deficiencies identified in the inspections, including the required corrective action, acceptance criteria or standards, and planned dates for completion of the actions
- A date for the final inspection.

Phase I RD/RA

Task Name	Schedule Start	Schedule Finish
Phase I Remedial Design	**02/07/2000**	**06/06/2000**
ROD Issuance	02/07/2000	02/07/2000
RD/RA SOW Review	02/28/2000	03/29/2000
Phase I RD/RA Work Plan Review	05/08/2000	05/22/2000
Phase I RD/RA Table Top Review	05/23/2000	05/24/2000
Final Resolution of RD/RA Work Plan Comments	05/25/2000	06/06/2000
RD/RA Work Plan Final	06/06/2000	06/06/2000
Phase I Remedial Action	**06/07/2000**	**09/28/2001**
Phase I Mobilization to ARA	06/07/2000	06/14/2000
Phase I Field Work	06/15/2000	06/15/2001
Phase I Prefinal Inspection	06/18/2001	06/29/2001
Phase I Prefinal Inspection Report Review	07/02/2001	07/31/2001
Draft Phase I RA Report Review	09/03/2001	09/28/2001



Default

Complete | Complete Milestone | Remaining | Remaining Milestone | Free Float | Total Float (+) | Total Float (-) | Delay | Non-Resource | Baseline 1

Critical

Remaining | Remaining Milestone

Parent

Remaining | Remaining Milestone

Figure 5-2. Project schedule.

This report will be issued to indicate that the objectives of the ROD (DOE-ID 2000a) are being met and that remedial actions' facility operations may commence. The prefinal inspection report will not be revised/finalized. The inspection will be finalized in the remedial action report documenting the prefinal inspection process. The completed prefinal inspection checklist may be included as an appendix to the remedial action report in accordance with Section 8.4 of the FFA/CO (DOE-ID 1991). Submittal of the prefinal inspection report and the respective targeted schedule is identified in Section 5.6.

5.7.3 Final Inspection

The final inspection will be conducted following demobilization, after all excess materials and nonessential construction equipment have been removed from the sites, and the sites are considered functional and operational. Some equipment may remain onsite to repair items identified during final inspections. Final inspections, as conducted by the Agencies project managers or their designees, will confirm the resolution of all outstanding items identified in the prefinal inspection and verify that the OU 5-12 remedial action has been completed in accordance with the requirements of the ROD (DOE-ID 2000a). Final inspections will be documented in the remedial action report.

5.8 Remedial Action Sampling and Analysis Plan

The sampling and analysis plan for Phase I of the INEEL WAG 5 RD/RA project is comprised of two parts:

- Field Sampling Plan (FSP)
- Quality Assurance Project Plan (QAPjP).

These plans have been prepared pursuant to the *National Oil and Hazardous Substances Contingency Plan* (EPA 1990), guidance from the EPA on the preparation of sampling and analysis plans, and in accordance with MCP-241, "Preparation of Characterization Plans." The FSP, *Field Sampling Plan for the Waste Area Group 5 Remedial Action – Phase I* (DOE-ID 2000c), describes the field sampling activities that will be performed, while the QAPjP details the processes and programs that will be used to ensure that the data generated are suitable for their intended purposes. The governing QAPjP for this sampling effort will be the *Quality Assurance Project Plan for Waste Area Groups 1, 2, 3, 4, 5, 6, 7, 10, and Inactive Sites* (DOE-ID 1997a). The QAPjP (DOE-ID 1997b) is incorporated into the FSP (DOE-ID 2000c) by reference. Work control processes will follow formal practices as per communicated agreement with the appropriate site area directors and the environmental restoration project manager.

5.9 Health and Safety Plan

A site-specific HASP has been prepared specifically for the tasks and conditions to be encountered on this project. This document is a living document and may be updated as conditions dictate. The plan covers the following items:

- Task-site responsibility
- Personnel training
- Occupational medical program and medical surveillance
- Accident Prevention Program

- Site control and security
- Hazard evaluation
- Personal protective equipment
- Decontamination
- Emergency response plan for the task sites.

5.10 Waste Minimization Plan

Waste will be generated as a result of the activities conducted during this project. Wastes expected to be generated include the following:

- Personal protective equipment
- Equipment decontamination liquid residue
- Equipment decontamination solid residue
- CAPSUR used for PCB decontamination
- Plastic sheeting
- Concrete from the ARA-02 and inactive septic tanks as well as the ARA-729 tank vault
- Pumice blocks from the ARA-02 and inactive seepage pits
- Metal from the ARA-13 distribution box
- Sludge from the ARA-02 and inactive seepage pits
- Piping connecting to the ARA-729 tank, septic tanks, and seepage pits
- ARA-729 tank waste
- ARA-729 stainless steel tank
- Fencing materials
- Excavated, contaminated soils
- Unused/unaltered sample material
- Analytical residues
- Sample containers
- Hydraulic spills
- Miscellaneous wastes.

Wastes may be hazardous. As remediation continues, additional waste streams may be identified. All new waste streams projected, as well as those identified above, are required to have the waste identified and characterized. A hazardous waste determination must be completed and presented to the appropriate waste management organization (e.g., Waste Generator Services) for approval by that organization at the time of generation. A complete description of the wastes being generated and the appropriate disposition route is provided in Appendix J, Waste Management.

5.11 Decontamination Plan

Equipment decontamination will be conducted at each site where contaminated materials will be encountered. Decontamination operations will be performed in accordance with technical procedure (TPR)-52, "Field Decontamination of Sampling Equipment" (formerly standard operating procedure [SOP] 11.5), and TPR-51, "Field Decontamination of Heavy Equipment, Drill Rigs and Drilling Equipment" (formerly SOP 11.4), as appropriate, with the exception that isopropanol will not be used during decontamination at those sites where organic contamination is not a concern.

Dry decontamination procedures will be used at the beginning of the decontamination effort. If additional wet decontamination is necessary, the equipment will be driven or placed onto a clean decontamination pad and/or plastic, such as rubber matting, for this activity. If this is not successful, equipment may be decontaminated by using a high-pressure water spray from a portable unit. All equipment will be surveyed and visually inspected to ensure all source contamination has been removed. If additional contamination is still evident, additional decontamination efforts will be conducted until the equipment is clean and may be free released. The equipment will remain in the area where remediation is occurring until it is adequately decontaminated, as verified by a field radiation survey performed by the RCT and/or field surveillance conducted by the IH.

The following equipment is required for decontamination:

- Decontamination pads or plastic large enough for any equipment used in the contaminated areas
- Brooms, wire brushes, putty knives, and other small equipment for removing contamination through dry methods
- Portable low-volume, high-pressure water spray units (this equipment would only be used if dry decontamination was ineffective)
- Isopropanol for organic-contaminated equipment.

Management of wastes generated during decontamination efforts will remain within the area of contamination for temporary storage until final waste disposition. Tools used for equipment decontamination (e.g., brushes) will be decontaminated, surveyed for contamination, and released for reuse.

5.12 Spill Prevention/Response Program

Any inadvertent spill or release of potentially hazardous materials will be subject to the substantive requirements contained in the *INEEL Emergency Plan/RCRA Contingency Plan* (PLN-114) for the CFA. To note, ARA is covered under the CFA addendum to the plan. Handling of the materials and/or substance shall be in accordance with the recommendations of the applicable material safety data sheets, which will be located onsite. In the event of a spill, the emergency response plan (see Section 11 of the

project HASP [INEEL 2000]) will be activated. All materials/substances on the work site shall be stored in accordance with the applicable regulations and in approved containers.

5.13 Remedial Action Report

The Phase I remedial action report will be prepared following demobilization and restoration of the sites and submitted to the Agencies as a secondary document. The remedial action report will include, but not be limited to, the following:

- Identification of the work defined in the RD/RA Phase I Work Plan and certification that the work was performed.
- Explanation of any modifications to the RD/RA Phase I Work Plan.
- Any modifications made to the remedial design during the remedial action phase, including the purpose and results of the modifications.
- Problems encountered during the remedial action and resolutions to these problems.
- Any outstanding items from the prefinal inspection report that were identified and described. In responding to comments received, the prefinal inspection report will not be revised, but rather will be finalized in the context of the remedial action report.
- Certification that the remedies are operational and functional. DOE-ID will provide a statement certifying that the remedies are achieving, or have achieved, the requirements of the ROD (DOE-ID 2000a).
- As-built drawings showing final contours.
- Final total costs of the remedial action for Phase I of the remedial action.
- Results of the Phase I Final Inspection(s). Any final inspection will be documented in the draft remedial action report, submitted to the Agencies' project managers within 60 calendar days of the final inspection, and used to resolve prefinal inspection issues.

6. FIVE-YEAR REVIEW

In accordance with the National Contingency Plan (EPA 1990), a review of the selected remedy will be conducted no less than every 5 years for sites where contamination above risk-based concentrations is left in place. The 5-year review will evaluate the remedy to determine if it protects human health and the environment. Five-year reviews will be conducted for remediated sites with institutional controls at least until 2095 (i.e., until the 100-year institutional control period expires) or until it is determined during a 5-year review that controls and reviews are no longer necessary. The ARA-02, ARA-16, and ARA-25 sites being remediated may require institutional controls as described in the ROD (DOE-ID 2000a). Hence, five-year reviews are required.

Land use will be restricted at the ARA-02 Sanitary Septic System and the ARA-16 Radionuclide Tank until remediation is implemented as prescribed in the ROD (DOE-ID 2000a). Land-use controls will not be required after remediation if all contaminated soil and sludge are removed to basalt or if contaminant concentrations are comparable to local background values. These sites will also be subject to 5-year reviews with restrictions remaining until 2095 or until determined to be necessary during the 5-year review cycles.

As stated in Section 1, the Institutional Control Plan will be addressed in the WAG 5 RD/RA Phase II Work Plan. All sites under institutional control will have the following items inspected within the first 5-year review:

- An annual walk-through inspection will be performed to determine the condition of the implemented institutional controls (e.g., signs, postings, markers, and fencing)
- Administrative controls will be continued including deed restrictions, access restrictions, and ensuring that the proper notifications have been completed as per the *INEEL Comprehensive Facility and Land Use Plan* (DOE-ID 1997c)
- Reseeded areas will be inspected annually for the first 3 years
- The native-soil covers will be inspected annually to determine soil cover integrity and radiologically surveyed to ensure contamination levels are stable or decreasing due to half-life.

7. REFERENCES

29 CFR 1926, Subpart P, Appendix A, *Code of Federal Regulations*, Title 29, "Labor," Part 1926, "Safety and Health Regulations for Construction," Subpart P, "Excavations," Appendix A, "Soil Classification," July 1, 2000.

36 CFR 800.4, *Code of Federal Regulations*, Title 36, "Parks, Forests, and Public Property," Part 800, "Protection of Historic Properties," Subpart 4, "Identification of Historic Properties," July 1, 2000.

36 CFR 800.5, *Code of Federal Regulations*, Title 36, "Parks, Forests, and Public Property," Part 800, "Protection of Historic Properties," Subpart 5, "Assessment of Adverse Effects," July 1, 2000.

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